

Descriptions and records of new and little known species of *Cerceris* Latreille, 1802 from Socotra and southern Arabia (Hymenoptera: Sphecidae)

by

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Five new species of *Cerceris* Latreille, 1802 are described, namely, *laterifurcata*, *albopectoris*, *laterimaculata*, *rufofacies*, *fitzgeraldi*; and nine known species are recorded or redescribed, including *vagula* Kohl and *lobaba* Kirby of which males are now available.

Of the six species of *Cerceris* known to me that inhabit Socotra and southern Arabia (Empey, 1969), Kohl has contributed five valid species, namely, *invalida*, *podagrosa*, *sokotrae*, *vagula* and *querula*, the remaining species *lobaba* being credited to Kirby. I have seen most of the types of the above species and the redescrptions that follow are based on the examination of these types. Further material from these areas was submitted for determination by the British Museum (Natural History). It was collected mainly by Mr K. Guichard in 1967. Some of the new species represented are described here.

Cerceris invalida Kohl, 1906, figs. 1-3

Cerceris invalida Kohl, 1906: 205 (♂); Empey, 1969: 311 (♂).

MALE. 14 mm long. Black, the following parts yellow: clypeus, except extreme apical margin, which is ferruginous; entire frons to midway between antennal insertion and anterior ocellus; frontal disc; inter-antennal carina; a macula in ocellar area; tinges in median area of pronotal scapulae; tegulae, anteriorly; medial tinges on second tergite; medio-lateral tinges on third tergite; tinges on all tibiae and tarsi. Legs and antennae pale ferruginous; scapes slightly tinged with yellow anteriorly. The following ferruginous: mandibles; portions of scapulae; tegulae, posteriorly; pronotum laterally, but with yellow tinges; hypo-epimeral areas of mesopleuron; superior metapleural areas, in part; metanotum; scutellum; propodeum, except declivity; tinges on saepium; petiole, except black medio-basal macula; tinges on most of second tergite; tinges on large ochreous lateral maculae of third tergite; second sternite, in greater part. Wings tinged with pale brown, fore wings darkening distally; veins brown, pterostigmae ferruginous. Pilosity pale golden, short and sparse dorsally, very short and decumbent on frons and clypeus, much longer and denser on sternites.

Frons and clypeus finely shallowly reticulate-punctate, and striato-punctate in latero-frontal areas; rest of head similarly punctured, reticulations much deeper. Scapulae dull, practically impunctate. Pronotum medio-dorsum punctured as occiput. Scutum moderately reticulate-punctate, somewhat rugoso-punctate medio-dorsally.

Metanotum slightly shining, practically impunctate except for some minute interspersed punctures. Scutellum slightly shining, moderately but sparsely punctured. Saeptum shallowly medio-longitudinally grooved, finely obliquely striate. Propodeum coarsely obliquely rugoso-punctate. Mesopleuron moderately reticulate-punctate. Petiole, second and third tergites with progressively smaller, shallower and interspersed puncturation; sixth tergite with still smaller puncturation, punctures still further apart. Pygidium finely coriaceous, with small, moderately deep punctures interspersed in basal two-thirds. Sternites finely coriaceous.

Medio-clypeus oval, one-third longer again than wide, convex, apically tridentate, laterally obtuse angled. Inner orbits strongly divergent towards mandibular base. Scapulae torulose. Propodeal declivity with two sub-parallel longitudinal impressions. Scutum deeply medio-anteriorly impressed, sub-carinate on lateral margins of impression. Petiole sub-rectangular, sides weakly convex. Second tergite one-third wider again than, and as long as petiole. Pygidium sub-oblong, one-half longer again than wide, sides straight and slightly tapering based; apex broadly rounded. Second sternite without medio-basal platform. Posterior tibiae with six very feeble serrations along each outer edge. Inter-ocular distance on vertex about equal to combined length of first three segments of flagellum. Second flagellar segment tapers basad, and is about one-fourth longer again than third segment; ultimate segment (fig. 3) is unusually thin, strongly curved and apically sub-truncate.

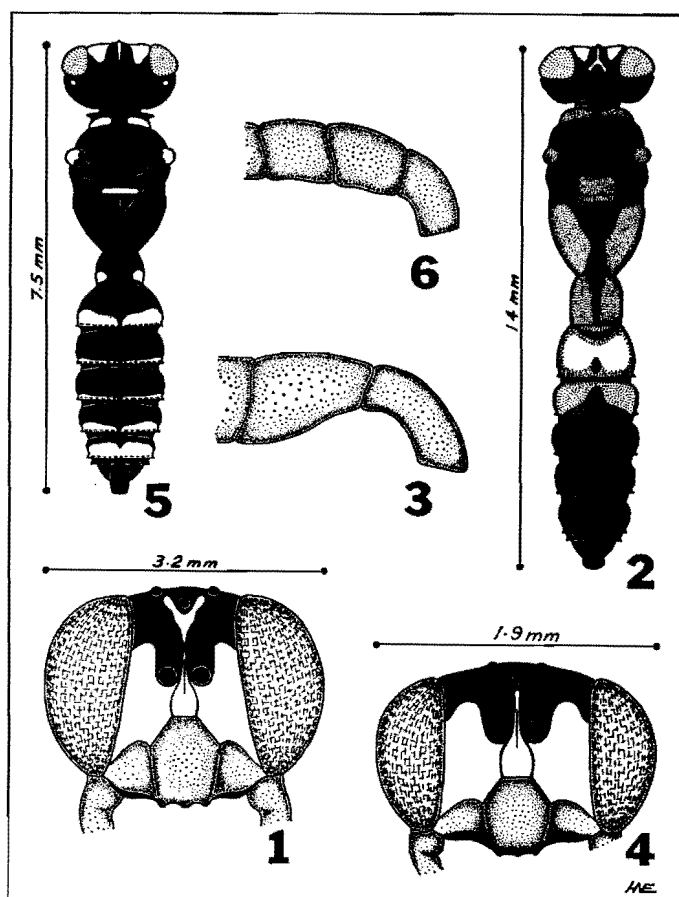
MATERIAL EXAMINED. SOUTHERN ARABIA: ♂ holotype in Vienna Museum, carrying two labels:— "3,99 Ras Farták leg. O. Simony" and "invalida Type", the latter in Kohl's hand. I have added a red holotype label. The holotype is in perfect condition. Female unknown.

Cerceris querula Kohl, 1906, figs. 4–6

Cerceris querula Kohl, 1906: 210 (♂); Empey, 1969: 319 (♂).

MALE. 7.5 mm long. Black, the following parts creamy-yellow: latero-frontal areas adjoining orbital margins and thinning out to top level of inter-antennal carina; latero- and medio-clypeal areas, except extreme anterior margins; frontal disc; inter-antennal carina; a small macula, near posterior orbital margin, on each upper gena; scapes; scapulae, boldly; tegulae, in greater part; metanotum; lateral maculae, one a side, on petiole; a bold apical band, slightly broken medially, on second tergite; thin apical bands, slightly broken medially, on third, fourth and fifth tergites; sixth tergite, almost entirely; lateral maculae, one a side, on second, third and fourth sternites; tibiae and tarsi, except ferruginous streaks on tarsi and inner distal halves of posterior tibiae. Mandibles ferruginous, darkening distally. Flagella dark blackish-ferruginous above, ferruginous beneath. Coxae, trochanters and femora ferruginous to dark ferruginous. Wings sub-hyaline, tinged with very pale brown, fore wings darkening distally; pterostigmae pale brown, veins brown. Pilosity silvery, short dorsally, slightly longer ventrally.

Frons and clypeus finely, very shallowly, not closely punctured; rest of head finely deeply reticulate-punctate, puncturation somewhat contiguous to sub-contiguous. Pronotal dorsum punctured as occiput; scapulae punctured as frons. Scutum punctured as occiput, but punctures larger, deeper. Scutellum punctured as medio-scutum, but impunctate and nitidulous laterally. Metanotum microscopically and shallowly punctulate, interspersed punctulation similar to that on frons, but much shallower.



Figs 1-6. *Cerceris* spp. 1-3. *C. invalida* Kohl, ♂. 1. Head. 2. Body. 3. Apex to flagellum. 4-6. *C. querula* Kohl, ♂. 4. Head. 5. Body. 6. Apex to flagellum.

Saeptum boldly convex, nitidulous, impunctate, medio-longitudinally grooved. Propodeum and mesopleuron punctured as scutum. Superior metapleural areas finely obliquely striate. Abdominal dorsal complex punctured as occiput; puncturation of fifth and sixth tergites progressively finer, shallower, punctures somewhat interspersed. Sternites with fine shallow puncturation in lateral areas. Pygidium somewhat sub-carinated medio-longitudinally, with very fine interspersed punctulation.

Medio-clypeus broadly oval, nearly one-half longer again than wide, apically tridentate and a little more than one-half as wide apically as width across tentorial pits. Inner orbits sub-parallel. Pronotal collar anteriorly acutely precipitous. Propleuron with acute lateral denticles, one a side, plainly visible from above. Petiole broad, short, nearly twice as wide as long, sides convex and much narrower basally than apically. Second tergite a little longer, and one-third wider again than petiole. Pygidium somewhat

barrel-shaped, one-third longer again than wide, sides slightly convex, apex truncate. Posterior tibiae with five coarse spiniferous serrations along each outer edge. Second sternite without medio-basal platform. Petiole foveated medio-apically. Inter-ocular distance on vertex equal to combined length of first five, plus one-half of sixth segments of flagellum. Second flagellar segment is a little longer than third; ultimate and penultimate flagellar segments are of equal length and about as long as third segment, the former being strongly curved and apically truncate (fig. 6).

MATERIAL EXAMINED. SOUTHERN ARABIA: ♂ holotype in Vienna Museum carrying two labels:—“3,99 Ras Farták leg. O. Simony” and “*querula* Kohl Type”, the latter in Kohl’s hand. I have added a red holotype label.

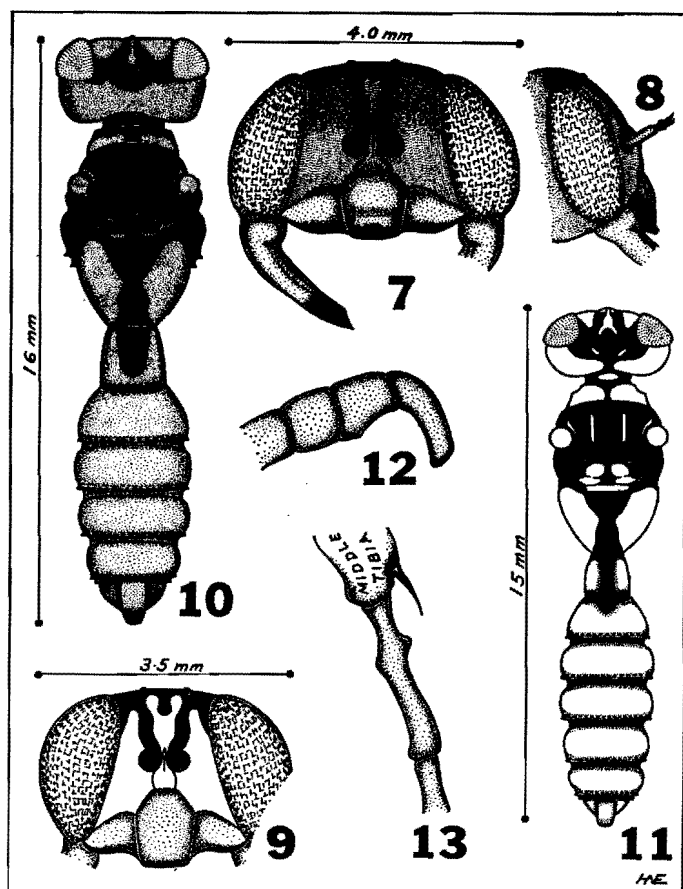
NOTES. The female is unknown. In the male, the species is very close to *C. flavofemorata* Arnold, 1942, a widespread African species; it may eventually prove to be a subspecies of *flavofemorata*. The males of *querula* and *C. specularis* Costa, 1869 are similar in colour but not otherwise.

Cerceris podagrosa Kohl, 1906, figs. 7–13

Cerceris podagrosa Kohl, 1906: 206 (♀, ♂); Empey, 1969: 319 (♀, ♂).

FEMALE. 14–16 mm long (lectotype 16 mm). Pale ferruginous, the following parts black: median area of frons, extending posteriorly from antennal insertion alongside inter-antennal carina, then widening to orbital margins, continuing beyond posterior ocelli and covering entire ocellar area, but excluding inter-antennal carina and anterior area before anterior ocellus; pronotum, except scapulae and pronotal lobes; distal one-third of mandibles; mesopleuron, in greater part; propleuron; scutum, except lateral ferruginous maculae; metanotum, medially; saeptum; propodeal declivity; superior metapleural areas; petiole medio-longitudinally; extreme base of second tergite. Wings sub-hyaline, tinged with pale brown, fore wings darkening distally, brown stigmated in second cubitellar areas; pterostigmae ferruginous, veins brown. Pilosity pale golden, short, very short and decumbent on clypeus, frons and abdominal dorsal complex, long and fimbriant on apical margin of fifth tergite, densely fimbriant on lateral margins of pygidium, and reasonably long and dense on fifth sternite. Pygidial area blackish. The coloration varies, for sometimes there are yellowish longitudinal lines, as well as yellowish streaks alongside the tegulae, on the scutum; the yellow on the scutellum also shows a certain amount of variation as well.

Medio-clypeus convex, as long as wide, slightly transversely depressed in anterior half; apical margins of medio- and latero-clypeal areas continuous, sinuate, the medio-clypeal apex slightly convex and slightly protruding. There is a small low transverse tubercle in the middle near the medio-clypeal apex. Inner orbits moderately divergent towards mandibular base. Scapulae slightly swollen. Mesopleuron very swollen, bituberculate on each side, tubercles somewhat mammiform. Hypo-epimeral areas swollen, laterally crested. Petiole sub-rectangular, as long as wide, sides slightly convex and slightly narrower basally. Second tergite nearly two-thirds wider again than long, and as long as petiole. Pygidium three-fourths longer again than wide, sub-ovoid, sides slightly convex and narrowing distally to a sub-truncated apex, which has slightly rounded corners; basal width about two and one-half times wider than that at apex. Posterior tibiae with six coarse spiniferous serrations along each outer edge. Sternital apices medially excised, excision of fifth sternite deep. Second sternite without medio-basal platform. Inter-ocular distance on vertex equal to combined length of first five



Figs 7-13. *Cerceris podagrosa* Kohl. 7. ♀ head (front). 8. ♀ head (side). 9. ♂ head. 10. ♀ body. 11. ♂ body. 12. ♂ apex to flagellum. 13. ♂ right middle basitarsus (lateral).

segments of flagellum. Second flagellar segment tapers basad, and is one-fourth longer again than third segment; ultimate segment is slightly longer than third, and tapers slightly to a rounded apex. Mandibles robust, edentate.

Frons and clypeus finely closely shallowly punctured; rest of head similarly punctured, but puncturation much deeper. Pronotum punctured as frons. Dorsal surfaces of thorax and abdominal complex fundamentally coriaceous, on which is superimposed fine shallow, but not close puncturation, punctures similar to those on occiput. Saeptum moderately obliquely rugose. Mesopleuron moderately reticulate-punctate. Superior metapleural areas obliquely costate. Lateral areas of propodeum finely reticulate-punctate. Pygidium finely coriaceous. Sternites slightly shining, with small interspersed puncturation in lateral areas. Saeptum dull; rest of dorsal surface slightly shining.

MALE. 15 mm long. In coloration slightly different from female, varying from yellow to yellowish-ferruginous. Scutellum usually completely yellow, or sometimes consisting of two large transversely adjacent maculae. Scutum with two longitudinal sub-parallel yellowish lines, somewhat subdividing this sclerite into three parts, and with streaks adjoining tegular margins, similar to female. Basal margins of tergites usually black; petiole sometimes with blackish full-length medio-longitudinal streak. Distal one-third of posterior tibiae usually dark ferruginous to blackish-ferruginous. Sometimes occiput is partly yellowish, the yellow extending laterally as far as upper genae. Both sexes variable in coloration, variation similar to that of the sexes of *Cerceris solitaria* Dahlbom, 1845, an unrelated species.

Medio-clypeus flatly convex, large, one-third longer again than wide; apex broadly transverse, the margin here straight, edentate, lateral corners slightly rounded and protruding obtusely angular beyond latero-clypeal apices. Inner orbits stronger in their divergence towards mandibular base than female. Inter-ocular distance on vertex equal to combined length of first four segments of flagellum. Second flagellar segment tapers cephalad, and is about one-half longer again than third segment; ultimate segment (fig. 12) is strongly curved, apically sub-truncate, a little longer than third segment, and much thinner than penultimate and antecedent segments. Punctuation as female, but condition of saeptum and pygidium differs: saeptum finely rugose, medio-longitudinally grooved, with immediate lateral areas bordering groove impunctate and nitidulous; pygidium sub-oblong, sides very slightly convex, apex slightly convex with corners slightly rounded, and with fine shallow sub-contiguous even punctuation. Posterior tibiae with six feeble serrations along each outer edge. Middle basitarsi curved (fig. 13), similar to the related species *Cerceris capito* Lepeletier, 1845, *C. spinipectus* Smith, 1856, *C. curvitaris* Schletterer, 1887, but differs by having a tuberculate swelling about midway on inner edge, thereby providing a characteristic whereby males of this species may be separated.

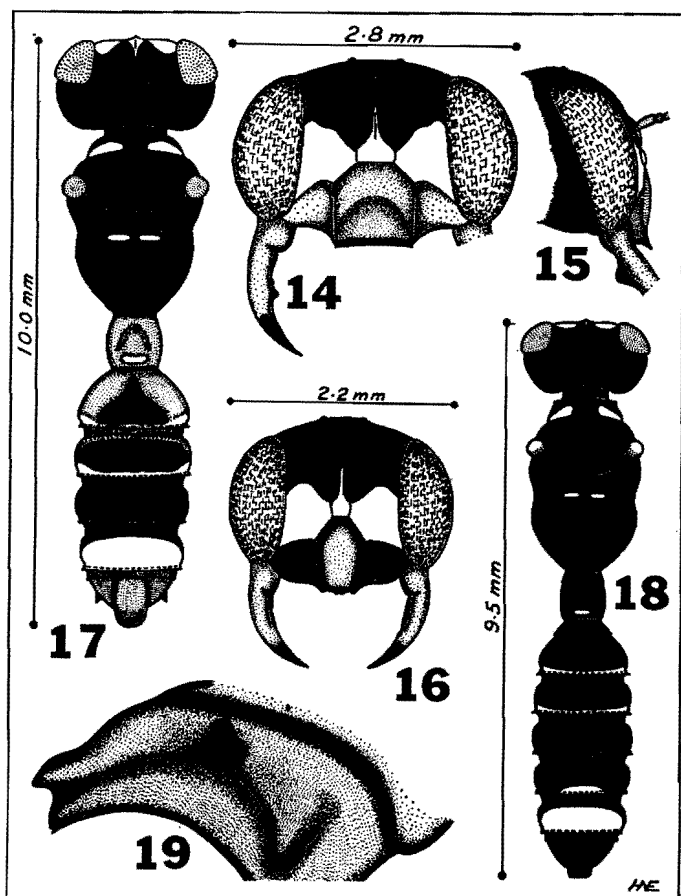
MATERIAL EXAMINED. SOCOTRA: ♀ lectotype and ♀ paralectotype in Vienna Museum carrying two labels:— "*Ras Shoab, Sokotra, I. '99. O. Simony*" and "*podagrosa Type*", the latter in Kohl's hand. SOCOTRA, Hadibo Plain: 1 ♀, 1 ♂, 4.iv.1967 (K. Guichard) (British Museum). NORTH-EAST AFRICA, Gorgoru: 1 ♂, 24.iv.1901 (V. E. Langer).

NOTES. Both lectotype and paralectotype are in excellent condition. Males of *podagrosa* could easily be confused with males of *Cerceris spinipectus prisca* Schletterer, 1887, a north African species, but the middle basitarsal shape will determine *podagrosa*.

Cerceris sokotrae Kohl, 1906, figs. 14–19

Cerceris sokotrae Kohl, 1906: 207 (♀, ♂); Empey, 1969: 322 (♀, ♂).

FEMALE. (Lectotype 10 mm long, contrary to Kohl's measurement.) Black, the following parts pale yellow: frons up to basal level of inter-antennal carina; clypeus, except extreme apex of medio-clypeus, which is ferruginous; frontal disc; mandibles, except distal one-fourth; scapulae; tegulae anteriorly; metanotum thinly, broken medially; a transverse medio-apical macula on petiole; thin apical bands on second, third and fifth tergites; small lateral maculae, one a side, on third sternite; all tibiae and tarsi. The following parts ferruginous: tinges on mandibles; antennae, except yellow tinges beneath flagella; tegulae posteriorly; petiole; second tergite, except a black oval transverse medio-apical macula; large lateral maculae, one a side, on third tergite; an



Figs 14–19. *Cerceris sokotrae* Kohl. 14. ♀ head (front). 15. ♀ head (side). 16. ♂ head. 17. ♀ body. 18. ♂ body. 19. ♀ fifth sternite apex (ventral).

apical band, very strongly dilated laterally, on fourth tergite; fifth tergite, except a yellow apical band and a large black sub-semi-circular medio-basal macula; pygidium, except blackish distal area; hypopygium; large lateral maculae, one a side, on second, third and fourth sternites; almost entire fifth sternite; coxae, trochanters and femora. Wings sub-hyaline, tinged with pale brown, fore wings darkening slightly distally; pterostigmae and veins brown. Pilosity silvery, short, sparse and erect dorsally, decumbent on clypeus and frons, longer and erect on sternites. Coloration variable, for in one of the specimens examined from Mombasa (Kenya), the petiole and tergites are almost devoid of ferruginous colour.

Frons and clypeus finely, very shallowly, not closely punctured; rest of head finely deeply reticulate-punctate. Pronotum punctured as occiput; scapulae impunctate, nitidulous. Scutum moderately, deeply punctured, punctures wide apart, interstices at

times equal to puncture diameters. Scutellum punctured as scutum. Saeptum slightly shining, convex, smooth, with a few minute latero-basal punctures; medio-longitudinal groove deeply crenulate. Propodeum coarsely obliquely striato-punctate. Hypo-epimeral areas and mesopleuron punctured as scutum, but puncturation closer. Abdominal dorsal complex moderately reticulate-punctate; fifth tergital puncturation finer, shallower. Pygidium finely rugose. Sternites finely punctured laterally.

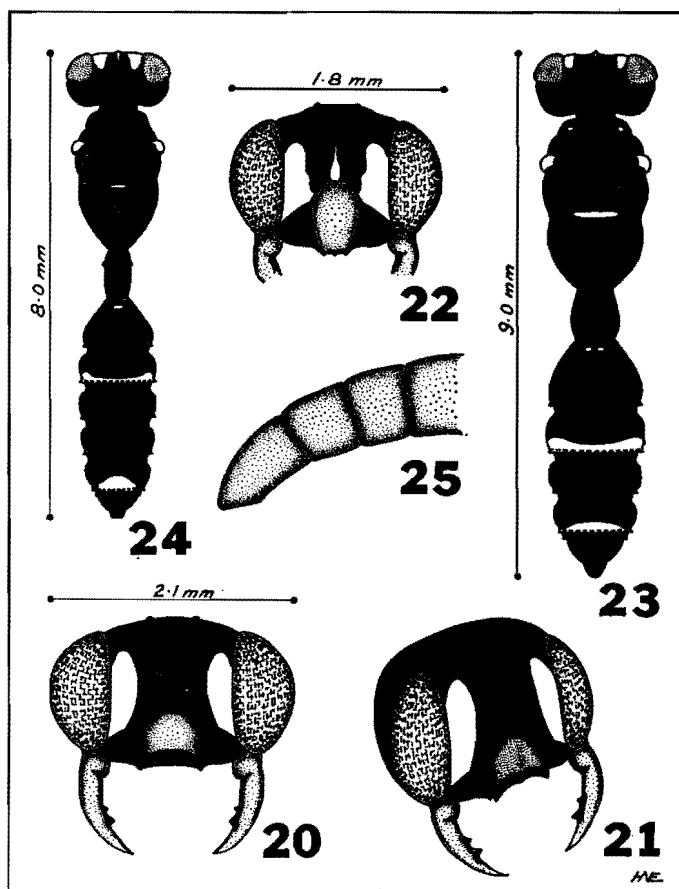
Medio-clypeus simple, devoid of clypeal process, as long as wide, flattish posteriorly, slightly concave longitudinally in anterior two-thirds, thus appearing somewhat turned-up distally; apical margin transverse, shallowly concave, lateral corners acute and slightly protruding beyond latero-clypeal apices, which are angled back at about 45° from medio-clypeal apex. Inner orbits very slightly divergent towards mandibular base. Mesopleuron normal, unarmed; hypo-epimeral areas slightly swollen. Petiole sub-rectangular, as long as wide, sides moderately convex. Second tergite is a little longer than, bell-shaped, and nearly twice as wide as petiole. Pygidium somewhat linguiform, two-thirds longer again than wide, sides moderately convex, apically rounded and slightly narrower apically than basally. Second sternite with sub-triangular medio-basal platform, sometimes (as in lectotype) hardly discernible. Fifth sternite apex deeply emarginate, lateral areas tumid, latero-apically sub-spiniferous, spines, one a side, directed posteriorly; midway on apical emargination of this sclerite there is a sub-triangular acute denticle projecting ventrad (fig. 19), very similar to that on fifth sternite of female of *Cerceris rufocincta* Gerstaecker, 1857. Posterior tibiae with six feeble serrations along each outer edge. Inter-ocular distance on vertex equal to combined length of first six segments of flagellum. Second flagellar segment tapers basad, is a little longer than third segment, and is as long as ultimate segment, which is pointed and slightly curved. Mandibles sub-falcate, obtusely unidenticular in middle of inner margins.

MALE. 9.5 mm long. Coloured as female, except that the abdomen is black with yellow apical bands on second, third, fifth and sixth tergites, the band on fifth not reaching the sides, and that on the sixth tergite almost covering entire segment. The petiole has a similar transverse medio-apical macula, but not as bold as that of female, and the extreme apical margin is ferruginous. Frontal disc, inter-antennal carina, medio-clypeus and frons up to antennal level, pale yellow; basal, lateral and apical margins of medio-clypeus and entire latero-clypeal areas, black; fronto-clypeal suture sometimes black as well. Pygidium dark ferruginous; tegulae ferruginous posteriorly. Colour of wings and pilosity as female.

Medio-clypeus flatly convex, about one-half longer again than wide, apex tridentate, the median denticle wide, somewhat sub-bidenticular. Saeptum similar to female. Petiole one-fourth longer again than wide, sides slightly convex; second tergite slightly longer than, and about twice as wide as petiole. Pygidium sub-oblong, one-half longer again than wide, sides sub-parallel, apex truncate; surface rugose. Posterior tibiae with six very feeble serrations along each outer edge. Second sternite with pointed sub-triangular medio-basal platform, similar to that of female. Inter-ocular distance on vertex equal to combined length of first five segments of flagellum. Second, third and ultimate flagellar segments of equal length; ultimate segment slightly curved, tapering moderately to a rounded apex. Mandibles sub-falcate, edentate. Inner orbits almost parallel, slightly divergent above and below. Otherwise as female in sculpture and puncturation.

MATERIAL EXAMINED: SOCOTRA: ♀ lectotype and ♂ paralectotype in Vienna Museum carrying two labels:— "*Ras Shoab, Sokotra, I. '99. O. Simony*" and "*Sokotrae Type*", the latter in Kohl's hand. KENYA, Mombasa: 2 ♀, March–April 1927 (Rhodesia Museum). ETHIOPIA, Harrar: 1 ♂, May 1911 (R. E. Turner) (Rhodesia Museum).

NOTES. It is possible, considering the very close similarity of this species and *Cerceris rufocincta* Gerstaecker, 1857, a south-east African species, that these two species are sub-specifically related; however, male genital comparison will decide their relationship, and until this is done, these taxa are considered separate species. Other related Ethiopian species are: *C. mutabilis* Arnold, 1931, *C. polychroma* Gribodo, 1895 and *C. varicincta* Cameron, 1905.



Figs 20–25. *Cerceris vagula* Kohl. 20. ♀ head (front). 21. ♀ head (side). 22. ♂ head. 23. ♀ body. 24. ♂ body. 25. ♂ apex to flagellum.

Cerceris vagula Kohl, 1906, figs. 20-25

Cerceris vagula Kohl, 1906: 209 (♀); Empey, 1969: 324 (♀).

FEMALE. 9-9,5 mm long. Black, the following parts pale yellow, somewhat ivory-coloured: medio-clypeus, except black free edge of clypeal process; latero-frontal areas up to antennal insertion level; sometimes very small maculae, one a side, on scapulae; tegulae anteriorly; metanotum; sometimes a small transverse oval medio-basal macula, or broken into two transversely adjacent maculae, on second tergite; apical bands on third and fifth tergites, that on the former moderately dilated laterally; lateral maculae, one a side, on third sternite; tibiae and tarsi, except dark ferruginous infuscation on inner surfaces of posterior tibiae; streaks on mandibles. The following dark ferruginous to blackish-ferruginous: mandibles; tegulae, posteriorly; extreme apical margin of petiole; antennae, except pale ferruginous beneath flagella; coxae, femora and trochanters. Wings sub-hyaline, tinged with very pale brown, fore wings darkening distally; pterostigmae and veins dark brown. Pilosity silvery, short, very short and sparse dorsally, decumbent on frons and clypeus.

Frons and clypeus very finely, very shallowly punctulate; rest of head finely deeply reticulate-punctate. Pronotum punctured as occiput. Scutum moderately longitudinally striato-punctate. Scutellum punctured as occiput, punctures further apart. Metanotum slightly shining, impunctate. Saeptum coriaceous, dull, with crenulate medio-longitudinal groove and some fine longitudinal striae in basal corners. Propodeum moderately deeply reticulate-punctate. Abdominal dorsal complex punctured as propodeum, except fifth tergite, which has smaller, shallower puncturation. Pygidium finely coriaceous, finely rugose basally. Sternites finely closely punctured laterally.

Medio-clypeus slightly wider than long, distally shallowly concave, apically as wide as width across tentorial pits, apical margin laterally ending in sub-denticular acutely angled corners; anteriorly, there is a detached lamellate clypeal process, detached sides sub-parallel from tentorial pits, and free anterior edge thin, shallowly concave and slightly sinuate in its arcuating transverse profile. The clypeal process is longitudinally convex, this convexity extending back to the posterior area of medio-clypeus, whereas the true medio-clypeal anterior area immediately beneath the detached clypeal process is concave, this concavity extending to the medio-clypeal apex, the margin here being transverse.

Mandibles robust, externally angular, internally somewhat straight-edged, medially bidenticular on inner margins. Inner orbits sub-parallel, slightly divergent above and below. Pronotal collar precipitously truncate anteriorly. Mesopleuron swollen, unarmed. Petiole a little longer than wide, sides slightly convex. Second tergite slightly longer, and a little more than twice as wide as petiole. Pygidium narrowly ovate, three-fourths longer again than wide, sides convex, apex rounded, narrower apically than basally. Posterior tibiae with five very feeble serrations along each outer edge. Second sternite with low medio-basal platform. Inter-ocular distance on vertex equal to combined length of first seven segments of flagellum. Second flagellar segment very little longer than third, and is as long as ultimate segment, which is slightly curved and apically pointed.

MALE (hitherto undescribed). 8 mm long. In coloration very much the same as female, with the following parts yellow: medio-clypeus; latero-clypeal areas, boldly; frontal disc; inter-antennal carina; tegulae, anteriorly; metanotum, medially; a small

medio-basal macula on second tergite; an apical band, slightly dilated laterally, on third tergite; an apical band, not reaching sides, on sixth tergite; an apical band, strongly dilated laterally, on third sternite. Legs, antennae, mandibles and wings coloured as female.

Punctuation as female; surface condition of saeptum similar, but pygidial surface differs by being finely coriaceous, with some fine deep interspersed basal punctures. Medio-clypeus sub-ovate, convex, about one-third longer again than wide, apex tridentate, apical margin being about one-half of the width across tentorial pits and protruding noticeably beyond obliquely angled latero-clypeal anterior margins, which are densely pale golden fimbriate. Second segment of flagellum slightly longer than third, and is as long as ultimate segment (fig. 25), which tapers slightly to a pointed apex. Inter-ocular distance on vertex about equal to combined length of first five, plus one-half of sixth flagellar segments. Mandibles, though closed, appear sub-falcate, edentate. Petiole twice as long as wide, sides very slightly convex and latero-basally tuberculate. Second tergite sub-conical, as long as, and about two and one-half times wider than petiole. Pygidium barrel-shaped, one-half longer again than wide, sides slightly convex, narrower apically than basally, apex truncated. Posterior tibiae with five feeble serrations along each outer edge. Second sternite with medio-basal platform. Otherwise as female in structure and sculpture.

MATERIAL EXAMINED. SOUTHERN ARABIA: ♀ holotype in Vienna Museum, carrying two labels:— “3,99 *Ras Farták* leg. O. Simony” and “*C. vagula* ♀ Type”, the latter in Kohl’s hand; I have added a red holotype label. SAUDI ARABIA, Jalia Dakka: 1 ♂, No. 104/1, 22.vi.1962 (G. Popov) (British Museum Nat. Hist.). YEMEN, Usaifra: 1 ♀, 21.xii.1937 (Brit. Mus. Exped. to S.W. Arabia) (British Museum Nat. Hist.). W. ADEN PROTECTORATE, Dhala: 1 ♀, October, 1937 (Brit. Mus. Exped. to S.W. Arabia) (British Museum Nat. Hist.).

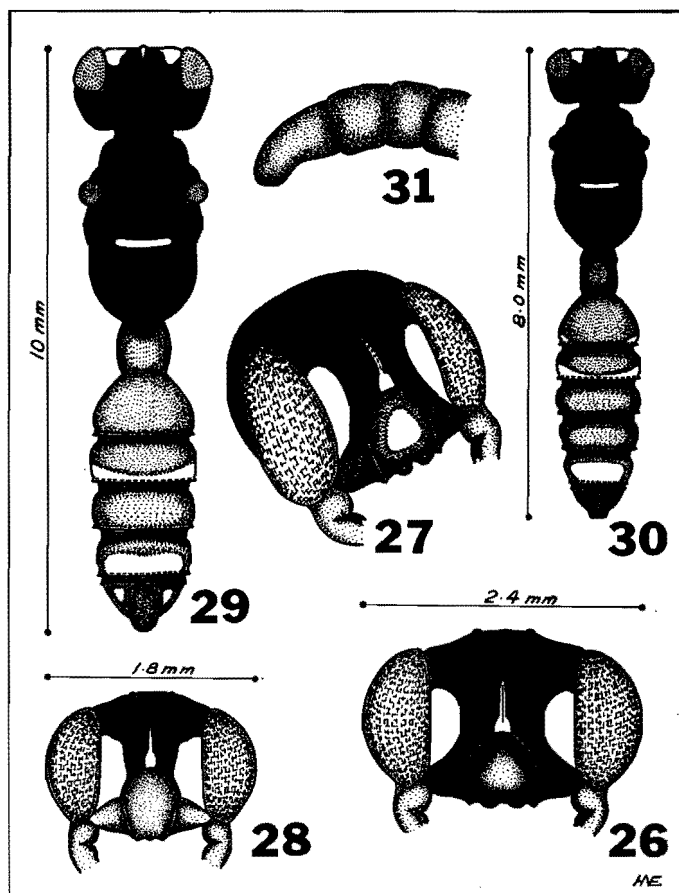
NOTES. The species is related to *Cerceris quinquesfasciata* Rossi, 1792. Holotype is in excellent condition. The description of the male is based on the examination of the above specimen.

Cerceris lobaba Kirby, 1900, figs. 26–31

Cerceris lobaba Kirby, 1900: 18 (♀); Forbes, 1903: 245 (♀); Kohl, 1906: 211 (♀); Empey, 1969: 313 (♀) (mis-spelt *lobata*).

The following redescription is based on an identified specimen in the British Museum (Nat. Hist.).

FEMALE. 10 mm long. Head and thorax black, the following parts pale yellow: a large sub-triangular macula on medio-clypeus; latero-frontal areas adjoining orbital margins; inter-antennal carina; metanotum. Tegulae ferruginous. Abdomen ferruginous, the following parts pale yellow: an apical band, moderately dilated laterally, on third tergite; a bold apical band, not quite reaching sides, on fifth tergite. The following parts black on abdominal dorsal complex: base of petiole; extreme bases of third and fourth tergites; base of fifth tergite. Pygidium blackish-ferruginous; adjacent lateral faces of hypopygium dark ferruginous, tinged with yellow. Sternites ferruginous with blackish infuscation. Mandibles ferruginous, basally yellowish, distally blackish. Antennae ferruginous, dark ferruginous to blackish above. Coxae blackish, in greater part; rest of legs ferruginous, tinged with yellow on anterior and middle tibiae; posterior femora blackish on inner apical areas. Pilosity silvery, short and adpressed on clypeus and frons,



Figs 26-31. *Cerceris lobaba* Kirby. 26. ♀ head (front). 27. ♀ head (side). 28. ♂ head. 29. ♀ body. 30. ♂ body. 31. ♂ apex to flagellum.

short and sparse dorsally, longer ventrally. Wings sub-hyaline, slightly tinged with pale brown, fore wings darkening distally; pterostigmae and veins brown.

Frons and clypeus shallowly finely reticulate-punctate; rest of head finely deeply reticulate-punctate, puncturation contiguous. Pronotum punctured as occiput. Scutum and propodeum moderately reticulate-punctate, punctures a little larger than those on occiput. Scutellum punctured as occiput, but punctures further apart, somewhat sub-contiguous. Saeptum flatly impressed into propodeum, lateral sutures clear-cut; surface slightly convex, medio-longitudinally grooved, somewhat finely transversely rugoso-striate, lateral sutures crenulate. Mesopleuron punctured as propodeum. Superior metapleural areas finely sub-obliquely striate. Abdominal dorsal complex punctured as propodeum, fifth tergite with smaller and shallower puncturation. Pygidium finely rugose. Sternites with fine lateral puncturation.

Medio-clypeus moderately convex, sub-hexagonal, as long as wide; apex as wide as width across tentorial pits, apical margin shallowly concave and acutely denticular laterally; semi-detached clypeal process present anteriorly, with transversely bilobate free edge deeply and roundly excised medially, the free edge width being about two-thirds as wide as medio-clypeus and protruding slightly beyond medio-clypeal apex. Inner orbits sub-parallel. Second flagellar segment tapers basally, and is as long as third segment. Petiole sub-quadrangle, sides slightly convex. Second tergite is as long, and about twice as wide as petiole. Pygidium oval, one-half longer again than wide, apex rounded. Second sternite with low medio-basal platform. Posterior tibiae with five feeble serrations along each outer edge.

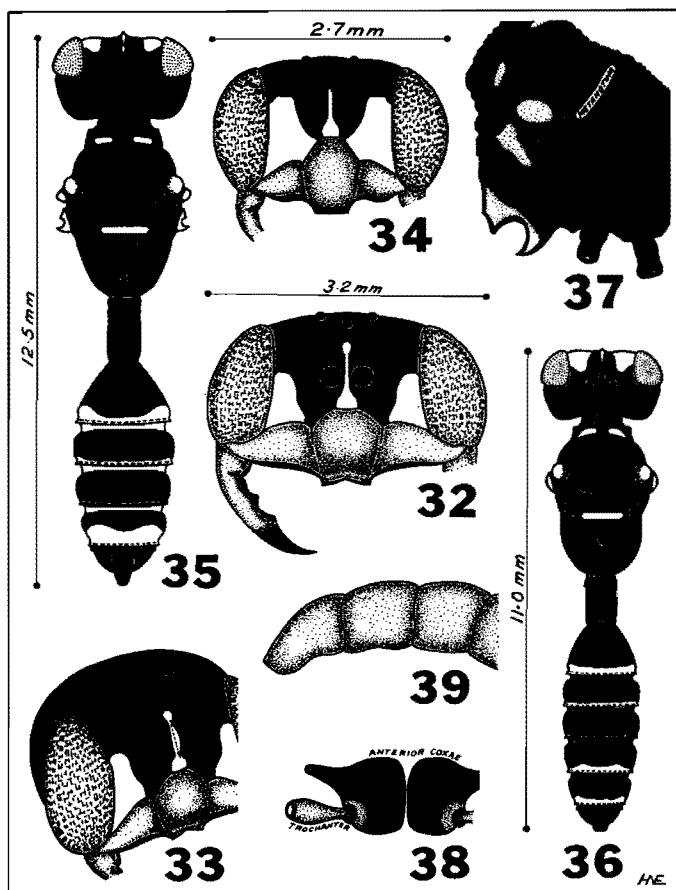
MALE (hitherto undescribed). 8 mm long. In coloration very much the same as female, with the following differences: clypeus and latero-frontal areas pale yellow, but medio-clypeal apical margin black; petiole black, with a large sub-circular ferruginous medial macula. Abdominal tergal complex ferruginous, exceptions being: basal margins of fourth, fifth and sixth tergites, black; apical bands on third and sixth tergites, pale yellow, the former moderately dilated laterally, the latter bold, almost covering entire segment. Pygidium ferruginous, margined with black. Antennae, legs and wings as female.

Punctuation as female; surface condition of saeptum similar, but pygidial surface differs by being moderately rugoso-punctate. Medio-clypeus moderately convex, sub-oval, about one-fourth longer again than wide, apex tridentate and protruding slightly beyond latero-clypeal apices, medio-clypeal apical margin being about one-half of that across tentorial pits. Inner orbits sub-parallel. Inter-ocular distance on vertex equal to combined length of first seven segments of flagellum. Second flagellar segment is a little longer than the third, and about as long as the ultimate segment (fig. 31), which is moderately curved, is thinner than the penultimate and antecedent segments, and tapers slightly to an obtusely pointed apex. Petiole sub-rectangular, one-fourth longer again than wide, sides sub-parallel and slightly narrower basally. Second tergite is as long, and slightly more than twice as wide as petiole. Pygidium one half longer again than wide, sides slightly convex, apex truncate and slightly narrower apically than basally. Second sternite with low medio-basal platform. Posterior tibiae with five feeble serrations along each outer edge.

MATERIAL EXAMINED. SOCOTRA: 1 ♀, Hamadara, 4.iv.1967 (K. Guichard) (British Museum Nat. Hist.); 2 ♂, Nos. 105/1 and 105/2, Hadibo Plain, 16.iv.1967 (K. Guichard) (British Museum Nat. Hist.). The description is based on the examination of the two male specimens above.

***Cerceris laterifurcata* spec. nov., figs. 32–39**

FEMALE. 9–12.5 mm long (holotype 12.5 mm). Black, the following parts creamy-white: clypeus; latero-frontal areas, inwardly sub-parallel from tentorial pits to antennal level; frontal disc; inter-antennal carina; scapes, except ferruginous apices; thin traverse maculae, one a side, on posterior areas of scapulae; tegulae; metanotum; hypo-epimeral areas and furcate mesopleural projections; apical bands, slightly dilated laterally, on second and third tergites, that of the latter thin; almost entire distal half of fifth tergite; distal half of second sternite, a thin apical band on third sternite; tibiae and tarsi, posterior tarsi slightly infuscated on inner distal halves. Femora, trochanters



Figs 32-39. *Cercheris laterifurcata* spec. nov. 32. ♀ head (front). 33. ♀ head (side). 34. ♂ head. 35. ♀ body. 36. ♂ body. 37. ♀ mesopleuron (left side). 38. ♀ anterior coxae (ventral). 39. ♂ apex to flagellum.

and coxae variegated black, ferruginous and yellow. Mandibles yellow, distal one-third black. Wings sub-hyaline, very slightly tinged with pale brown, fore wings darkening distally; veins very dark brown, pterostigmae brown. Pilosity very short and sparse, denser and adpressed frontally.

Head large, crabronoid, wider than thorax. Mandibles slender, sub-falcate, bidentate on inner margins, denticles moderate, acutely sub-triangular. Inner orbits slightly divergent above, strongly divergent below. Clypeus broad; medio-clypeus sub-hexagonal, devoid of clypeal process, flatly convex posteriorly, and somewhat transversely flat and longitudinally concave distally, thus with apex somewhat turned-up; apical margin transverse, shallowly excised medially, lateral corners acute, sub-lobate

and obtusely angled, the marginal width being about three-fifths of that across tentorial pits. Antero-pronotum sub-precipitous, laterally acute. Hypo-epimeral areas produced horizontally into sub-triangular acutely pointed crests, dorsally sloping and plainly visible from above, and ventrally protruding from scrobal sulcus sub-horizontally. Mesopleuron unusually produced latero-ventrally into furcate processes (fig. 37), one a side, which project out noticeably and plainly visible from above; these processes are somewhat bidentate, deeply and roundly excised between two longitudinally placed teeth, the anterior tooth sub-triangular, the posterior one somewhat hooked. Propodeal declivity deeply and sharply impressed medio-longitudinally. Anterior coxae (fig. 38) produced into long thin lateral tubercles. Petiole sub-cylindrical, sub-parallel-sided, twice as long as wide. Second tergite is as long as, and nearly three times wider than petiole, sub-conical, sides very slightly convex. Pygidium narrowly ovate, two-thirds longer than wide, apex rounded and narrower apically. Second sternite with small distinct medio-basal platform. Fifth sternital apex moderately concave. Posterior tibiae with six moderate spiniferous serrations along each outer edge. Inter-ocular distance on vertex equal to combined length of first seven segments of flagellum. Second flagellar segment slightly longer than third segment; ultimate segment as long as third, is very slightly curved and apically rounded.

Clypeus and frons very shallowly, sparsely and finely punctured. Posterior latero-frontal areas dull, finely coriaceous, with some fine deep punctures adjacent orbital margins; rest of head finely deeply, not closely punctured. Head, thorax, and abdominal dorsal complex, in part, finely coriaceous fundamentally; therefore, puncturation as described must be regarded as superimpositions. Pronotum punctured as occiput; propodeum similarly punctured, but punctures larger, deeper and placed further apart, except on areas adjacent saeptal sutures, where the surface is dull and very sparsely punctured; scutum and abdominal dorsal complex similarly punctured, but punctures slightly larger than those of propodeum, the former not closely punctured, the latter somewhat reticulate-punctate, except fifth tergite, which has smaller, shallower and sub-contiguous puncturation. Scutellum medio-longitudinally depressed, with some minute, deep and widely interspersed punctures. Metanotum impunctate. Saeptum dull, medio-longitudinally grooved, with small punctures, one a side, on extreme medio-lateral areas. Mesopleuron coarsely rugoso-punctate. Propleuron punctured as occiput; neck similarly punctured, but puncturation finer. Superior metapleural areas obliquely striate in upper areas; inferior metapleural areas, immediately below evanescent metapleural sulcus, finely shallowly reticulate-punctate. Pygidium very dull, with some minute sub-contiguous basal and distal punctures. Second, third and fourth sternites with very shallow, small and not close lateral puncturation.

MALE. 8–11 mm long (allotype 11 mm). Coloration similar to female, except that sixth tergite has a creamy-white apical band, in addition to the corresponding tergal bands as female, and there are two small, transversely adjacent maculae on the scutellum of the same colour. Medio-clypeal apex black, and apical band on second sternite smaller than that of female, otherwise as female in coloration. Puncturation similar to female, but slightly coarser, especially that of propodeum. Saeptal surface condition as female; the single lateral punctures also present, but larger, deeper. Pygidium finely shallowly, not closely punctured.

Medio-clypeus broad, slightly convex, about one-half longer again than wide, apex edentate and slightly protruding beyond latero-clypeal apices; medio-clypeal

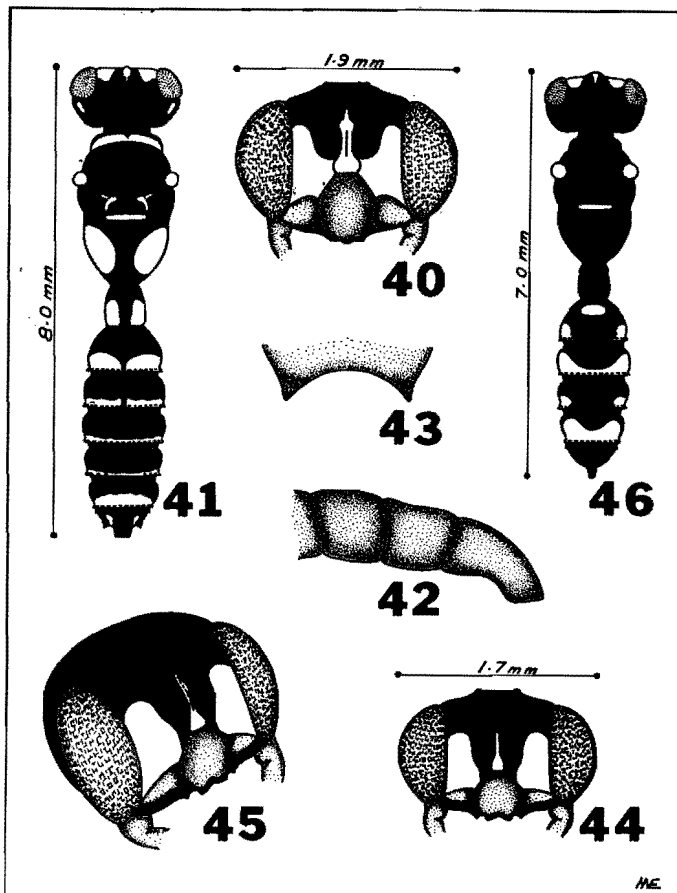
apical margin is laterally acute, and about two-thirds of width across tentorial pits. Mandibles sub-falcate, edentate. Inner orbits moderately divergent above and slightly divergent below. Inter-ocular distance on vertex equal to combined length of first six segments of flagellum. Flagellar segments, including ultimate segment (fig. 39), similar to female. Hypo-epimeral areas crested as female, but not as bold; mesopleuron unarmed. Propodeal declivity impressed as female. Petiole and second tergite shaped as female, the former nearly twice as long as wide, the latter about two and one-fourth times as wide, and a little shorter than petiole. Pygidium barrel-shaped, sides slightly convex, one-half longer again than wide, apex truncate. Second sternite with small indistinct medio-basal platform. Posterior tibiae with five feeble serrations along each outer edge. Otherwise as female in structure and sculpture.

MATERIAL EXAMINED. ♀ Holotype, ♂ allotype, 6 ♀ and 13 ♂ paratypes: SOUTHERN ARABIA, Lodar: ♀ holotype, No. 107/1, 16.v.1967 (K. Guichard) (British Museum); ♂ allotype, No. 107/2, 16.v.1967 (K. Guichard) (British Museum); 3 ♀, 12 ♂ paratypes, Nos. 107/3–17, 16.v.1967 (K. Guichard) (British Museum). WEST ADEN PROTECTORATE: 2 ♀ paratypes, Nos. 107/18–19, Dhala, 28.ix.1937 (H. Scott & E. B. Britton) (British Museum Exped. to S.W. Arabia); 1 ♀ paratype, No. 107/20, Museimiri, 7.iii.1940 (P. W. R. Petrie). YEMEN, Usaifra: 1 ♂ paratype, No. 107/21, 21.xii.1937 (H. Scott & E. B. Britton) (British Museum Exped. to S.W. Arabia). Holotype, allotype, ♀ and ♂ paratypes deposited in the British Museum (Nat. Hist.); ♀ and ♂ paratypes in my collection.

***Cerceris albopectoris* spec. nov., figs. 40–43**

MALE. 8 mm long. Black, the following parts creamy-white: basal two-thirds of mandibles, distal balance ferruginous; clypeus, except extreme apical margin of medio-clypeus, which is pale brown; frons, up to posterior level of inter-antennal carina; frontal disc; inter-antennal carina; a “7”-formed mark on right upper gena, the vertical stroke of the “7” running alongside posterior orbital margins, that on left upper gena, reversed; pronotal dorsum; lateral maculae, one a side, curved and longitudinally formed, on scutellum; metanotum; large lateral maculae, one a side, on propodeum; tegulae; post-spiracular carinae; propleuron, anteriorly; hypo-epimeral areas; mesopleuron, almost entirely; maculae on metasternal disc; large latero-distal maculae, one a side, on petiole; apical bands on all tergites, sometimes broken at medio-apical foveae on second, third and fourth tergites, second tergal band the boldest and dilated laterally, those on other tergites progressively thinner, except that on the sixth tergite, which covers half the segment; hypopygium; distal two-thirds of second sternite; apical bands on third and fourth sternites; scapes, anteriorly; coxae and trochanters, in part; tibiae, except infuscated inner surfaces; tarsi, except posterior ones, which are pale brown, as are the infuscations on some of the tibiae. Pedicels and flagella ferruginous. Wings sub-hyaline, slightly tinged with pale brown, fore wings darkening distally; pterostigmae brown, veins dark brown. Pilosity silvery, very short and sparse generally, adpressed on clypeus and frons. Latero-clypeal apices densely fimbriate, fimbriae sericeous.

Clypeus and frons finely shallowly, not closely punctured; rest of head finely deeply reticulate-punctate. Pronotal dorsum punctured as frons. Propleuron longitudinally striato-rugose. Scutum, propodeum and abdominal dorsal complex moderately



Figs 40–46. *Cerceris* spp. 40–43. *C. albopectoris* spec. nov. ♂. 40. Head. 41. Body. 42. Apex to flagellum. 43. Sixth sternite (ventral). 44–46. *C. laterimaculata* spec. nov. ♀. 44. Head (front). 45. Head (side). 46. Body.

deeply reticulate-punctate; scutellum similarly punctured, but puncturation smaller. Metanotum impunctate. Saeptum finely rugose, devoid of medio-longitudinal groove. Pygidium moderately rugoso-punctate. Sternites with small shallow lateral puncturation.

Mandibles, though closed, appear subfalcate, edentate. Medio-clypeus sub-oval, convex, one-third longer again than wide, flatly sub-unidentate medio-apically; apex transverse, slightly protruding beyond latero-clypeal apices and about three-fifths as wide as width across tentorial pits. Inner orbits sub-parallel. Inter-ocular distance on vertex about equal to combined length of first five segments of flagellum. Second flagellar segment about one-fourth longer again than third segment; ultimate segment (fig. 42) is as long as third; is slightly curved and obliquely truncate apically. Mesopleuron slightly swollen, unarmed. Petiole slightly longer than wide, sides slightly

convex, narrower basally. Second tergite is as long as, and about four-fifths wider again than petiole. Pygidium somewhat sub-oblong, two-thirds longer again than wide, sides very slightly convex, narrower at truncated apex. Second sternite without medio-basal platform; instead, there is a low medio-longitudinal carina, thus the surface appears somewhat anticlinically formed. Sixth sternite (fig. 43) apically concave, laterally acutely pointed, spines projecting posteriorly. Posterior tibiae with six very feeble serrations along each outer edge.

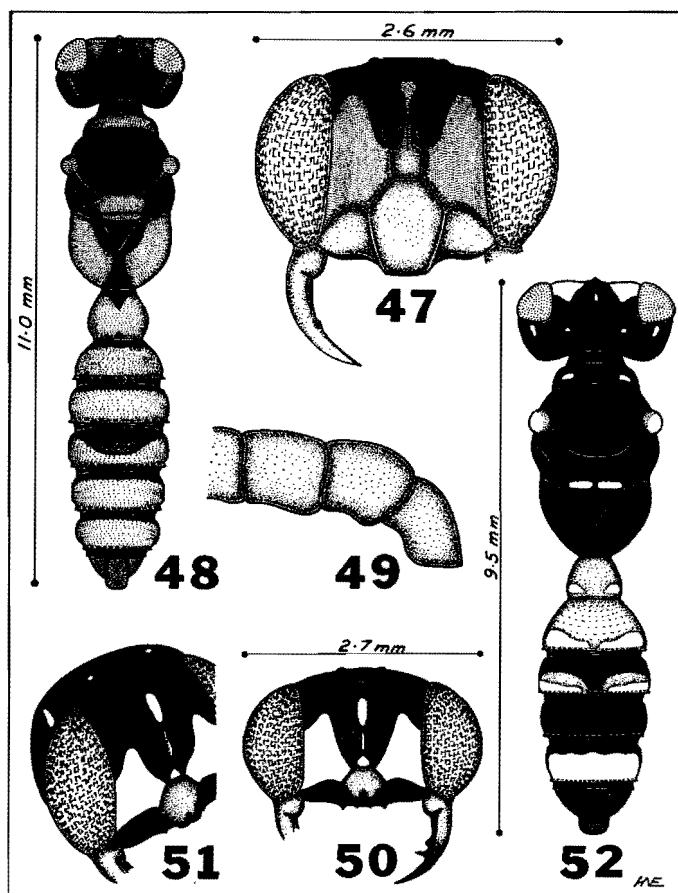
MATERIAL EXAMINED. ♂ Holotype: SOUTHERN ARABIA, Lodar: holotype, No. 108/1, 16.v.1967 (K. Guichard) in the British Museum (Nat. Hist.). Female unknown.

***Cerceris laterimaculata* spec. nov., figs. 44–46**

FEMALE. 7 mm long. Black, the following parts creamy-white: clypeus, except extreme apex of clypeal process and apical margins of medio- and latero-clypeal areas; latero-frontal areas broadly, up to a little beyond antennal insertion level; frontal disc and inter-antennal carina; scapes, anteriorly; tegulae; metanotum; a moderate sub-oval medio-basal macula on second tergite; latero-apical maculae, one a side, on second and fourth tergites, the former being bolder; bold apical bands, strongly dilated laterally, on third and fifth tergites. Extreme apical margin of petiole dark ferruginous. Tibiae, tarsi and distal areas for fore and middle femora, pale yellow, but excluding posterior tarsi, which are pale brown, and the brownish distal infuscation of the posterior tibiae. Mandibles yellowish, distal one-third blackish. Wings sub-hyaline, tinged with pale brown, fore wings darkening distally; pterostigmae and veins dark brown. Pilosity silvery, short and sparse.

Clypeus and frons finely shallowly, not closely punctured; rest of head finely deeply reticulate-punctate. Pronotum punctured as occiput; puncturation of scutum and propodeum slightly larger, especially that of propodeum; puncturation of scutum medio-dorsum sub-contiguous. Scutellum punctured as occiput. Metanotum impunctate. Saeptum transversely striato-rugose, medio-longitudinally grooved. Abdominal dorsal complex reticulate-punctate as propodeum. Pygidium very finely rugoso-punctate. Sternites with small lateral punctures.

Medio-clypeus sub-octagonal, convex, as long as wide, apex as wide as that across tentorial pits; apical margin shallowly concave, acutely denticular laterally and protruding, acutely angled, from anterior margins of latero-clypeal areas. Medio-clypeal convexity extends anteriorly into a slightly detached and convex clypeal process, the free edge of which being transversely concave, slightly porrect and a little more than one-half of the width across the tentorial pits. Inner orbits slightly divergent above and below. Mandibles, though closed, appear dentate on their inner margins. Inter-ocular distance on vertex equal to combined length of first six segments of flagellum. Second flagellar segment is about one-fourth longer again than third segment and tapers cephalad; ultimate segment is roundly pointed apically. Petiole sub-parallel-sided, one-fourth longer again than wide, sides very slightly convex. Second tergite is slightly longer than, and a little more than twice as wide as petiole. Pygidium narrowly ovate, about twice as long as wide, sides moderately convex and narrowing distally, becoming sub-parallel and very narrow near the rounded apex. Second sternite with low indistinct medio-basal platform. Posterior tibiae with five serrations along each outer edge.



Figs 47–52. *Cerceris* spp. 47–49. *C. rufofacies* spec. nov. ♂. 47. Head. 48. Body. 49. Apex to flagellum. 50–52. *C. fitzgeraldi* spec. nov. ♀. 50. Head (front). 51. Head (side). 52. Body.

MATERIAL EXAMINED. ♀ Holotype: WEST ADEN PROTECTORATE, Jebel Jihaf (7 100 ft.), October 1937 (H. Scott & E. B. Britton) (British Museum Exped. to S.W. Arabia). Holotype, No. 109/1 is deposited in the British Museum (Nat. Hist.). The male is unknown.

***Cerceris rufofacies* spec. nov., figs. 47–49**

MALE. 11 mm long. Black, the following parts bright ferruginous: frons and clypeus, to level just below anterior ocellus; frontal disc; inter-antennal carina; antennae; oblique maculae, one a side, on upper genae; pronotal collar; pronotal lobes; mesopleuron; tegulae; propleuron; scutellum; metanotum; propodeum, excluding propodeal declivity and sutural marginal areas bordering saeptum; petiole, except a black sub-

triangular medio-basal macula and basal margin; balance of abdominal dorsal complex, excluding black basal margins of second, third, fifth and sixth tergites, that of the sixth being the basal margin, and that of the fourth tergite being the basal half, with the ferruginous on the apical half of the fourth tergite strongly dilated laterally; pygidium and hypopygium, but darkly infuscated; sternites, in greater part; legs, excluding black bands near apices of posterior femora and tibiae. Tarsi pale brownish-ferruginous. Mandibles pale yellowish-ferruginous, distally blackish. Wings sub-hyaline, tinged with pale brown, fore wings darkening distally; pterostigmae brown, veins dark brown. Pilosity silvery, longish on propodeal sides, short and sparse dorsally, short and decumbent on clypeus and frons, long and very dense on sternites, densely fimbriate on latero-clypeal apices; pubescence of fimbriae and sternal pile somewhat sericeous.

Clypeus and frons coarsely, very shallowly rugoso-punctate; rest of head finely deeply reticulate-punctate, puncturation contiguous. Pronotal dorsum coarsely deeply reticulate-punctate. Scutum somewhat coarsely striato-punctate, puncturation longitudinally elongate. Scutellum moderately reticulate-punctate. Metanotum nitidulous, with interspersed shallow puncturation. Saeptum, except smooth extreme basal area, moderately deeply reticulate-punctate, devoid of medio-longitudinal groove; propodeum similarly punctured, except propodeal declivity, which is nitidulous and somewhat longitudinally striate. Hypo-epimeral areas finely rugoso-punctate; mesopleuron finely closely sub-contiguously punctured. Superior metapleural areas coarsely obliquely striate. Abdominal dorsal complex punctured as propodeum, except fifth tergite, which has smaller, shallower puncturation. Pygidium finely rugoso-punctate. Second sternite finely rugose; rest of sternites, including second, with fine shallow lateral puncturation.

Medio-clypeus moderately convex, suboval, somewhat sub-hexagonal, one-fourth longer again than wide; apex edentate, slightly convex and about three-fifths as wide as width across tentorial pits. Inner orbits very slightly divergent towards mandibular base. Mandibles sub-falcate, unidenticular on inner margins, denticle small. Petiole about one-fifth wider again than long, somewhat bell-shaped; foveate medio-apically, sides convex distally, tapering basally, widest at distal one-third, narrowed apically and much narrower basally. Second tergite slightly shorter, and about one-third wider again than petiole. Pygidium sub-oblong, one-third longer again than wide, convex, with corners slightly rounded. Second sternite without medio-basal platform. Posterior tibiae with seven feeble serrations along each outer edge. Interocular distance on vertex about equal to combined length of first five segments of flagellum. Second flagellar segment tapers thinly basad, and is slightly longer than third segment; ultimate segment (fig. 49) is strongly curved, obliquely truncate apically, short and about as long as the two antecedent segments combined.

MATERIAL EXAMINED. ♂ Holotype and 1 ♂ paratype: TRUCIAL OMAN COAST: March 1944 (D. V. Fitzgerald). Holotype, No. 106/1 is deposited in the British Museum (Nat. Hist.); paratype, No. 106/2 in my collection. Female unknown.

***Cerceris fitzgeraldi* spec. nov., figs. 50–52**

FEMALE. 9–9,5 mm long (holotype 9,5 mm). Black, the following parts pale yellow: latero- and medio-clypeal areas, the former anteriorly, in greater part, the latter entirely, except extreme free edge of nasiform clypeal process, which is blackish; latero-

frontal areas boldly, to a little beyond antennal insertion level, thinning out posteriorly; frontal disc; inter-antennal carina, thinly; a longish macula on frons between anterior ocellus and inter-antennal carina; small oval oblique maculae, one a side, on upper genae; a spot on each side of occiput midway and behind posterior ocelli and orbits, in line with anterior and posterior ocelli; a spot on each scapula of pronotal dorsum; tegulae laterally, blending into ferruginous; metanotum, distinctly broken medially; bold transverse latero-apical maculae, one a side, on petiole; apical bands, broken medially and strongly dilated laterally, on second and third tergites; almost entire fifth tergite, except black basal margin; basal one-third of mandibles, blending distally from ferruginous into dark blackish-ferruginous apically, denticles blackish. The following parts ferruginous: entire antennae; petiole, except a small black medio-basal macula; sometimes second tergite and traces on posterior areas adjoining yellow apical bands on third tergite; sometimes extreme apical margins of second, third and fourth tergites; distal area of pygidium; sometimes entire second sternite; lateral and apical traces on other sternites; sometimes entire hypopygium; legs entirely, except yellowish streaks on spiniferous external areas of posterior tibiae. Wings sub-hyaline, tinged with pale brown, fore wings darkening distally; pterostigmae brown, veins dark brown. Pilosity silvery, short dorsally, short and decumbent on frontal areas, moderately long and erect on abdominal ventral complex.

Frons and latero-clypeal areas dull, clypeal process slightly shining; puncturation on these areas small, very shallow, not close. Occiput, ocellar area and genae finely reticulate-punctate, punctures moderately deep. Pronotum dorsum punctured as occiput, puncturation shallower. Scutum, mesopleuron, propodeum and scutellum punctured as occiput, but punctures slightly larger and not so close, and that of scutellum slightly shallower, sub-contiguous. Propleuron finely transversely striate. Superior metapleural areas coarsely obliquely striate; inferior metapleural areas finely longitudinally striate. Metanotum dull, impunctate. Saeptum very dull, finely coriaceous, without medio-longitudinal groove. Petiole and tergites punctured as propodeum, except that fifth tergite has much shallower puncturation. Pygidium dull, coriaceous, with small, widely interspersed puncturation in basal half. Sternites with moderate and shallow lateral puncturation.

Medio-clypeus sub-hexagonal, apex sub-quadridenticular, a little wider than long, latero-apically acutely denticular, protruding slightly beyond latero-clypeal apices and apical width slightly less than that across tentorial pits; detached from a point just below tentorial pit level and rising sub-parallel and convexly from the basal convexity of the medio-clypeus, there is a rostrate clypeal process, the free edge of which being sub-truncate, slightly convex transversely, about level with the true medio-clypeal apex and about three-fifths as wide as width across tentorial pits. The clypeal process nasiform protuberance is shallowly depressed near the free apex. Mandibles acutely falcate and thin distally, medially bidenticular on inner margins, the anterior tooth acute and much longer than the obtuse posterior one. Scapulae swollen, hence medio-dorsal depression and anterior slope of pronotum. Mesopleuron swollen, with mammiform tubercles, one a side. Petiole a little wider than long, sides very convex, bell-shaped, much narrower basally. Second tergite a little longer, and almost three-fourths wider again than petiole, sides convex. Pygidium sub-linguiform, two-thirds longer again than wide, sides slightly convex, apex broadly arcuate with corners rounded. Second sternite without medio-basal platform. Posterior tibiae with six moderate spiniferous serrations along each outer edge. Inner orbits very slightly

divergent towards mandibular base. Inter-ocular distance on vertex about equal to combined length of first six segments of flagellum. Second flagellar segment is about one-fifth longer again than third segment; ultimate segment is as long as third, is slightly curved, roundly pointed and a little longer than penultimate segment. Petiole sub-foveate medio-apically. Hypopygium deeply and narrowly excised medio-apically, laterally spiniferous, spines acute and projected posteriorly.

MATERIAL EXAMINED. ♀ Holotype and ♀ paratype: TRUCIAL OMAN COAST: holotype, No. 110/1, March 1944 (D. V. Fitzgerald). OMAN, Felidj Ma'ald: paratype, No. 110/2, April 1943 (D. V. Fitzgerald). Holotype deposited in the British Museum (Nat. Hist.); paratype in my collection. Male unknown.

DISTRIBUTIONAL RECORDS

Cerceris spinipectus spinolica Schletterer, 1887

Cerceris spinolica Schletterer, 1887: 480 (♂, ♀).

Cerceris spinipectus spinolica Schletterer, 1887; De Beaumont, 1951a: 176, 179; 1951b: 387.

MATERIAL EXAMINED: SAUDI ARABIA: 1 ♂, Medaen Salih (26.45 N–38.15 E), 30.iv.1946 (G. V. Popov) (British Museum Nat. Hist.).

Cerceris chromatica Schletterer, 1887

Cerceris chromatica Schletterer, 1887: 422 (♂); De Beaumont, 1951a: 178; 1951b: 368 (♂, ♀).

MATERIAL EXAMINED. EGYPT: ♂ holotype in Vienna Museum. WEST ADEN PROTECTORATE, Wadi Hardaba: 1 ♂, 11.ix.1937 (British Museum Exped. to S.W. Arabia) (H. Scott & E. B. Britton) (British Museum Nat. Hist.).

Cerceris fischeri Spinola, 1838

Cerceris fischeri Spinola, 1838: 493 (♀, ♂); De Beaumont, 1950: 324; 1951a: 176; 1951b: 323 (♀, ♂).

MATERIAL EXAMINED. SOCOTRA: 4 ♂, Hadibo Plain, March–April 1967 (K. Guichard) (British Museum Nat. Hist.); 1 ♂, Hamadara, 4.iv.1967 (K. Guichard) (British Museum Nat. Hist.); 1 ♂, Kalansiva, 25.iii.1967 (K. Guichard) (British Museum Nat. Hist.).

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REFERENCES

- (For references cited in this paper but not listed hereunder see Empey, 1969: 328–331.)
- BEAUMONT, J. De. 1950. Synonymies de quelques *Cercheris*. *Mitt. schweiz. ent. Ges.* **23**: 317–328.
- 1951a. Synonymies de quelques *Cercheris*. *Mitt. schweiz. ent. Ges.* **24**: 175–180.
- 1951b. Contribution à l'étude des *Cercheris* Nord-Africains. *Eos, Madr.* **27**: 299–408.
- COSTA, A. 1869. Prospetto sistematico degli Imenotteri italiani. *Ann. Mus. zool. Napoli* **5**: 101.
- EMPEY, H. N. 1969. Revision of the Ethiopian species of *Cercheris* Latreille, 1802 (Hymenoptera: Sphecidae). 1. A synonymical checklist of the described species. *J. ent. Soc. sth. Afr.* **32**: 297–331.
- KIRBY, W. F. 1900. The expedition to Socotra. Description of the new Hymenoptera. *Bull. Lpool Mus.* **3**: 13–24.
- KOHL, F. F. 1906. Zoologische Ergebnisse der Expedition der kaiserlichen Akademie der Wissenschaften nach Süderabien und Sokótra, 1898–1899. *Denkschr. Akad. Wiss. Wien* **71**: 169–301.
- ROSSI, P. 1792. Mantissa insectorum. *Mant. Insect.*: 139.
- SPINOLA, M. 1838. Compte-rendu des Hyménoptères recueillis par Monsieur Fischer pendant son séjour en Égypte. *Annl. Soc. ent. Fr.* **7**: 437–496.

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